

10/ 551775

JC05 Rec'd PCT/PTO J3 OCT 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Michelle M. Hanna

Appl. No.: *To be assigned* (National Stage of
PCT/US2004/013031

Int'l Appl. Filing Date: April 29, 2004

For: **Molecular Detection Systems Utilizing
Reiterative Oligonucleotide Synthesis**

Confirmation No.: *To be assigned*

Art Unit: *To be assigned*

Examiner: *To be assigned*

Atty. Docket: 2072.0010009/MAC/SJE

Information Disclosure Statement

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Copies of the cited documents were submitted to the Office in Information Disclosure Statements that comply with 37 C.F.R. § 1.98(a)-(c) in Application No. 10/425,037, filed April 29, 2004, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicant has listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicant reserves the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

This Information Disclosure Statement is being filed before the mailing of a first Office Action on the merits. No statement or fee is required. 37 C.F.R. § 1.97(b).

It is respectfully requested that the Examiner initial and return a copy of the enclosed Form PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Simon J. Elliott
Agent for Applicant
Registration No. 54,083

Date: October 3, 2005
1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
2072.0010009/MAC/SJEAPPLICATION NO.
To be assigned (National Phase of
PCT/US2004/013031)FIRST NAMED INVENTOR
Michelle M. HannaINT'L APPL. FILING DATE:
April 29, 2004ART UNIT
To be assigned

10/ 551 775

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA1	3,996,345	12/07/1976	Ullman <i>et al.</i>			06/30/1975
	AB1	4,351,760	09/28/1982	Khanna <i>et al.</i>			09/07/1979
	AC1	4,582,788	04/15/1986	Erllich			01/07/1983
	AD1	4,683,194	07/28/1987	Saiki <i>et al.</i>			03/28/1985
	AE1	4,739,044	04/19/1988	Stabinsky			06/13/1985
	AF1	4,757,141	07/12/1988	Fung <i>et al.</i>			08/26/1985
	AG1	4,786,600	11/22/1988	Kramer <i>et al.</i>			05/25/1984
	AH1	5,130,238	07/14/1992	Malek <i>et al.</i>			08/23/1989
	AI1	5,169,766	12/08/1992	Schuster <i>et al.</i>			06/14/1991
	AJ1	5,508,178	04/16/1996	Rose <i>et al.</i>			02/09/1994
	AK1	5,595,891	01/21/1997	Rose <i>et al.</i>			07/19/1990

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL1	WO 89/01050	02/09/1989	WIPO			Yes No
	AM1	WO 03/038042 A2	05/08/2003	WIPO			Yes No
	AN1						Yes No
	AO1						Yes No
	AP1						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	1	Agrawal, S., and Tang, J.-Y., "Site-specific functionalization of oligodeoxynucleotides for non-radioactive labeling," <i>Tetrahedron Lett.</i> 31:1543-1546, Pergamon Press (1990)
AS	1	Chamberlin, M.J., "Bacterial DNA-Dependent RNA Polymerases," in <i>The Enzymes</i> , Boyer, P.D., ed., Academic Press, New York, N.Y. pp. 61, 84-86 (1982)
AT	1	Costas, C., <i>et al.</i> , "RNA-protein crosslinking to AMP residues at internal positions in RNA with a new photocrosslinking ATP analog," <i>Nucleic Acids Res.</i> 28:1849-1858, Oxford University Press (May 2000)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 2072.0010009/MAC/SJE	APPLICATION NO. To be assigned (National Phase of PCT/US2004/033891)
	FIRST NAMED INVENTOR Michelle M. Hanna	
	INT'L APPL. FILING DATE: April 29, 2004	ART UNIT To be assigned

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE or § 371(c) Date
	AA2	5,648,211	07/15/1997	Fraiser <i>et al.</i>			04/18/1984
	AB2	5,654,142	08/05/1997	Kievits <i>et al.</i>			03/14/1995
	AC2	5,679,512	10/21/1997	Laney <i>et al.</i>			10/20/1993
	AD2	5,683,879	11/04/1997	Laney <i>et al.</i>			06/07/1995
	AE2	5,744,308	04/28/1998	Guillou-Bonnici <i>et al.</i>			09/26/1995
	AF2	5,766,849	06/16/1998	McDonough <i>et al.</i>			11/28/1994
	AG2	5,824,517	10/20/1998	Cleuziat <i>et al.</i>			05/16/1997
	AH2	5,858,801	01/12/1999	Brizzolara			03/13/1997
	AI2	6,008,334	12/28/1999	Hanna			07/23/1997
	AJ2	6,107,037	08/22/2000	Sousa <i>et al.</i>			06/19/1998
	AK2	6,107,039	08/22/2000	Hanna			10/02/1998

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL2						Yes No
	AM2						Yes No
	AN2						Yes No
	AO2						Yes No
	AP2						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	2	Daube, S.S., and von Hippel, P.H., "Functional Transcription Elongation Complexes from Synthetic RNA-DNA Bubble Duplexes," <i>Science</i> 258:1320-1324, American Association for the Advancement of Science (1992)
AS	2	Dunn, J.J., and Studier, F.W., "Complete Nucleotide Sequence of Bacteriophage T7 DNA and the Locations of T7 Genetic Elements," <i>J. Mol. Biol.</i> 166:477-535, Academic Press, Inc. (1983)
AT	2	Gait, M.J., <i>et al.</i> , "Oligoribonucleotide synthesis," in <i>Oligonucleotides and Analogues</i> , Eckstein, F., ed., Oxford University Press, Oxford, Great Britain, pp. 25-31 (1992)

EXAMINER	DATE CONSIDERED
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FORM PTO-1449 <u>INFORMATION DISCLOSURE STATEMENT</u>	ATTY. DOCKET NO. 2072.0010009/MAC/SJE	APPLICATION NO. To be assigned (National Phase of PCT/US2004/019834)
	FIRST NAMED INVENTOR Michelle M. Hanna	
	INT'L APPL. FILING DATE: April 29, 2004	ART UNIT To be assigned

107 551 775

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA3	5,399,491	03/21/1995	Kacian <i>et al.</i>			03/19/1992
	AB3	5,888,819	03/30/1999	Goelet <i>et al.</i>			03/05/1991
	AC3	5,554,516	09/10/1996	Kacian <i>et al.</i>			12/02/1993
	AD3	5,571,669	11/05/1996	Lu <i>et al.</i>			01/14/1993
	AE3	6,251,594 B1	06/26/2001	Gonzalzo <i>et al.</i>			06/09/1998
	AF3	2003/0099950 A1	05/29/2003	Hanna, M.M.			10/30/2001
	AG3	5,503,979	04/02/1996	Kramer <i>et al.</i>			08/26/1994
	AH3	6,114,519	09/05/2000	Cole <i>et al.</i>			10/15/1997
	AI3	2002/0168641	11/14/2002	Mortensen <i>et al.</i>			03/09/2001
	AJ3						
	AK3						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL3						Yes No
	AM3						Yes No
	AN3						Yes No
	AO3						Yes No
	AP3						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	3	Gait, M.J., "An Introduction to Modern Methods of DNA Synthesis," in <i>Oligonucleotide synthesis: a practical approach</i> , Gait, M.J., ed., Oxford University Press, Oxford, Great Britain, pp.1-22 (1984)
AS	3	Geider, K., <i>et al.</i> , "An RNA transcribed from DNA at the origin of phage fd single strand to replicative form conversion," <i>Proc. Natl. Acad. Sci. USA</i> 75:645-649, National Academy Press (1978)
AT	3	Guatelli, J.C., <i>et al.</i> , "Isothermal, <i>in vitro</i> amplification of nucleic acids by a multienzyme reaction modeled after retroviral replication," <i>Proc. Natl. Acad. Sci. USA</i> 87:1874-1878, National Academy Press (1990)

EXAMINER

DATE CONSIDERED

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FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 2072.0010009/MAC/SJE	APPLICATION NO. To be assigned National Phase PCT/US2004/048021 775
	FIRST NAMED INVENTOR Michelle M. Hanna	
	INT'L APPL. FILING DATE: April 29, 2004	ART UNIT To be assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA4						
	AB4						
	AC4						
	AD4						
	AE4						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL4						Yes No
	AM4						Yes No
	AN4						Yes No
	AO4						Yes No
	AP4						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	4	Gupta, K.C., <i>et al.</i> , "A general method for the synthesis of 3'-sulfhydryl and phosphate group containing oligonucleotides," <i>Nucleic Acids Res.</i> 19:3019-3025, Oxford University Press (1991)
AS	4	Gurevich, V.V., <i>et al.</i> , "Preparative <i>in Vitro</i> mRNA Synthesis Using SP6 and T7 RNA Polymerases," <i>Anal. Biochem.</i> 195:207-213, Academic Press, Inc. (1991)
AT	4	Hanna, M.M., "Photoaffinity Cross-Linking Methods for Studying RNA-Protein Interactions," <i>Methods Enzymol.</i> 180:383-409, Academic Press, Inc. (1989)

EXAMINER	DATE CONSIDERED
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FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 2072.0010009/MAC/SJE FIRST NAMED INVENTOR Michelle M. Hanna INT'L APPL. FILING DATE: April 29, 2004	APPLICATION NO. To be assigned (National Phase of PCT/US2004/018081) 107-551775 ART UNIT To be assigned
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U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA5						
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL5						Yes No
	AM5						Yes No
	AN5						Yes No
	AO5						Yes No
	AP5						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	5	Hanna, M.M., <i>et al.</i> , "Probing the environment of nascent RNA in <i>Escherichia coli</i> transcription elongation complexes utilizing a new fluorescent ribonucleotide analog," <i>Nucleic Acids Res.</i> 27:1369-1376, Oxford University Press (1999)
	AS	5	Hanna, M.M., <i>et al.</i> , "Synthesis and characterization of a new photocrosslinking CTP analog and its use in photoaffinity labeling <i>E.coli</i> and T7 RNA polymerases," <i>Nucleic Acids Res.</i> 21:2073-2079, Oxford University Press (1993)
	AT	5	He, B., <i>et al.</i> , "Preparation of probe-modified RNA with 5-mercapto-UTP for analysis of protein-RNA interactions," <i>Nucleic Acids Res.</i> 23:1231-1238, Oxford University Press (1995)

EXAMINER	DATE CONSIDERED
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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.
2072.0010009/MAC/SJEAPPLICATION NO.
To be assigned, National Phase of
PCT/US2004/03431
10/581775FIRST NAMED INVENTOR
Michelle M. HannaINT'L APPL. FILING DATE:
April 29, 2004ART UNIT
To be assigned**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA6						
	AB6						
	AC6						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL6						Yes No
	AM6						Yes No
	AN6						Yes No
	AO6						Yes No
	AP6						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	6	Kwoh, D.Y., <i>et al.</i> , "Transcription-based amplification system and detection of amplified human immunodeficiency virus type 1 with a bead-based sandwich hybridization format," <i>Proc. Natl. Acad. Sci. USA</i> 86:1173-1177, National Academy Press (1989)
AS	6	Lewis, M.K., and Burgess, R.R., "Transcription of Simian Virus 40 DNA by Wheat Germ RNA Polymerase II," <i>J. Biol. Chem.</i> 255:4928-4936, American Society for Biochemistry and Molecular Biology (1980)
AT	6	Martin, C.T., <i>et al.</i> , "Processivity in Early Stages of Transcription by T7 RNA Polymerase," <i>Biochemistry</i> 27:3966-3974, American Chemical Society (1988)

EXAMINER

DATE CONSIDERED

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FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 2072.0010009/MAC/SJE	APPLICATION NO. To be assigned Official Phase of PCT US 2004/043081
	FIRST NAMED INVENTOR Michelle M. Hanna	
	INT'L APPL. FILING DATE: April 29, 2004	ART UNIT To be assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA7						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL7						Yes No
	AM7						Yes No
	AN7						Yes No
	AO7						Yes No
	AP7						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	<u>z</u>	Meyer, K.L., and Hanna, M.M., "Synthesis and Characterization of a New 5-Thiol-Protected Deoxyuridine Phosphoramidite for Site-Specific Modification of DNA," <i>Bioconjugate Chem.</i> 7:401-412, American Chemical Society (1996)
AS	<u>z</u>	Milligan, J.F., and Uhlenbeck, O.C., "Synthesis of Small RNAs Using T7 RNA Polymerase," <i>Methods Enzymol.</i> 180:51-62, Academic Press, Inc. (1989)
AT	<u>z</u>	Montemagno, C., and Bachand, G., "Constructing nanomechanical devices powered by biomolecular motors," <i>Nanotechnology</i> 10:225-231, IOP Publishing, Ltd. (1999)

EXAMINER

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<p>FORM PTO-1449</p> <p><u>INFORMATION DISCLOSURE STATEMENT</u></p>	<p>ATTY. DOCKET NO. 2072.0010009/MAC/SJE</p>	<p>APPLICATION NO. To be assigned National Phase PCT/US2004/013881</p>
	<p>FIRST NAMED INVENTOR Michelle M. Hanna</p>	
	<p>INT'L APPL. FILING DATE: April 29, 2004</p>	<p>ART UNIT To be assigned</p>

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA8						
	AB8						
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL8						Yes No
	AM8						Yes No
	AN8						Yes No
	AO8						Yes No
	AP8						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	8	Mullis, K., <i>et al.</i> , "Specific Enzymatic Amplification of DNA In Vitro: The Polymerase Chain Reaction," <i>Cold Spring Harb. Symp. Quant. Biol.</i> 51:263-273, Cold Spring Harbor Laboratory (1986)	
AS	8	Mullis, K.B., <i>et al.</i> , "The Polymerase Chain Reaction: Why It Works," in <i>Polymerase Chain Reaction</i> , Erlich, H.A., <i>et al.</i> , eds., Cold Spring Harbor Laboratory Press, Woodbury, N.Y., pp. 237-243 (1989)	
AT	8	Nelson, P.S., <i>et al.</i> , "Bifunctional oligonucleotide probes synthesized using a novel CPG support are able to detect single base pair mutations," <i>Nucleic Acids Res.</i> 17:7187-7194, Oxford University Press (1989)	

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FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT		ATTY. DOCKET NO. 2072.0010009/MAC/SJE	APPLICATION NO. To be assigned (National Phase of PCT/US2004/013681
		FIRST NAMED INVENTOR Michelle M. Hanna	INT'L APPL. FILING DATE: April 29, 2004
		ART UNIT To be assigned	

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA10						
	AB10						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL10						Yes No
	AM10						Yes No
	AN10						Yes No
	AO10						Yes No
	AP10						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	10	Smithies, O., <i>et al.</i> , "Detection of Targeted Gene Modifications by Polymerase Chain Reaction," in <i>Polymerase Chain Reaction</i> , Erlich, H.A., <i>et al.</i> , eds., Cold Spring Harbor Laboratory Press, Woodbury, N.Y., pp. 199-203(1989)
	AS	10	Sproat, B.S., <i>et al.</i> , "The synthesis of protected 5'-mercapto-2',5'-dideoxyribonucleoside-3'-O-phosphoramidites; uses of 5'-mercapto-oligodeoxyribonucleotides," <i>Nucleic Acids Res.</i> 15:4837-4848, Oxford University Press (1987)
	AT	10	Walker, G.T., <i>et al.</i> , "Isothermal <i>in vitro</i> amplification of DNA by a restriction enzyme/DNA polymerase system," <i>Proc. Natl. Acad. Sci. USA</i> 89:392-396, National Academy Press (1992)

EXAMINER	DATE CONSIDERED
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	FIRST NAMED INVENTOR Michelle M. Hanna	
	INT'L APPL. FILING DATE: April 29, 2004	ART UNIT To be assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA11						
	AB11						
	AC11						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL11						Yes No
	AM11						Yes No
	AN11						Yes No
	AO11						Yes No
	AP11						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>11</u>	Zuckermann, R., <i>et al.</i> , "Efficient methods for attachment of thiol specific probes to the 3'-ends of synthetic oligodeoxyribonucleotides," <i>Nucleic Acids Res.</i> 15:5305-5321, Oxford University Press (1987)
	AS	<u>11</u>	Daube <i>et al.</i> , "Functional Transcription Elongation Complexes from Synthetic RNA-DNA Bubble Complexes," <i>Science</i> , 1992, vol. 258, pages 1320-1324
	AT	<u>11</u>	Mancini <i>et al.</i> , "Constitutively Methylated CpG Dinucleotides as Mutation Hot Spots in the Retinoblastoma Gene (RB1), <i>American Journal of Human Genetics</i> , 1997, vol. 61, pages 80-87

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<p>FORM PTO-1449</p> <p>INFORMATION DISCLOSURE STATEMENT</p>	<p>ATTY. DOCKET NO. 2072.0010009/MAC/SJE</p>	<p>APPLICATION NO. To be assigned (National Phase of PCT/US2004/01003)</p>
	<p>FIRST NAMED INVENTOR Michelle M. Hanna</p>	
	<p>INT'L APPL. FILING DATE: April 29, 2004</p>	<p>ART UNIT To be assigned</p>

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
		AA12					
		AB12					
		AC12					
		AD12					
		AE12					
		AF12					
		AG12					
		AH12					
		AI12					
		AJ12					
		AK12					

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
		AL12					Yes No
		AM12					Yes No
		AN12					Yes No
		AO12					Yes No
		AP12					Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>12</u>	International Search Report for International Application No. PCT/US02/34419, mailed July 24, 2003, International Searching Authority/USA, Washington, D.C.
	AS	<u>12</u>	Antequerra, F., and Bird, A., "Number of CpG islands and genes in human and mouse," <i>Proc. Natl. Acad. Sci. USA</i> 90:11995-11999, National Academy of Sciences (1993)
	AT	<u>12</u>	Callahan, R., <i>et al.</i> , "Frequent Mutations in Breast Cancer," <i>Ann. N.Y. Acad. Sci.</i> 698:21-30, New York Academy of Sciences (1993)

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<p>FORM PTO-1449</p> <p><u>INFORMATION DISCLOSURE STATEMENT</u></p>	<p>ATTY. DOCKET NO. 2072.0010009/MAC/SJE</p>	<p>APPROPRIATION To be assigned National Phase PCT/US2004/013031</p>
	<p>FIRST NAMED INVENTOR Michelle M. Hanna</p>	
	<p>INT'L APPL. FILING DATE: April 29, 2004</p>	<p>ART UNIT To be assigned</p>

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
		AA13					
		AB13					
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
		AL13					Yes No
		AM13					Yes No
		AN13					Yes No
		AO13					Yes No
		AP13					Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>13</u>	Cifone, M.A., and Fidler, I.J., "Increasing metastatic potential is associated with increasing genetic instability of clones isolated from murine neoplasms," <i>Proc. Natl. Acad. Sci. USA</i> 78:6949-6952, National Academy of Sciences (1981).
	AS	<u>13</u>	Esteller, M., <i>et al.</i> , "Promoter Hypermethylation and BRCA1 Inactivation in Sporadic Breast and Ovarian Tumors," <i>J. Natl. Cancer Inst.</i> 92:564-569, Oxford University Press (April 2000). (Retrieved from LexisNexis Academic database)
	AT	<u>13</u>	Frommer, M., <i>et al.</i> , "A genomic sequencing protocol that yields a positive display of 5-methylcytosine residues in individual DNA strands," <i>Proc. Natl. Acad. Sci. USA</i> 89:1827-1831, National Academy of Sciences (1992)

EXAMINER	DATE CONSIDERED
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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
2072.0010009/MAC/SJEAPPLICATION NO.
To be assigned National Phase
PCT/US2004/016037
10/551775FIRST NAMED INVENTOR
Michelle M. HannaINT'L APPL. FILING DATE:
April 29, 2004ART UNIT
To be assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
		AA14					
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
		AL14					Yes No
		AM14					Yes No
		AN14					Yes No
		AO14					Yes No
		AP14					Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>14</u>	Giusti, W.G., and Adriano, T., "Synthesis and Characterization of 5'-Fluorescent-dye-labeled Oligonucleotides," <i>PCR Methods Appl.</i> 2:223-227, Cold Spring Harbor Laboratory Press (1993)
	AS	<u>14</u>	Gupta, K.C., <i>et al.</i> , "A general method for the synthesis of 3'-sulfhydryl and phosphate group containing oligonucleotides," <i>Nucleic Acids Res.</i> 19:3019-3025, Oxford University Press (1991)
	AT	<u>14</u>	Herman, J.G., <i>et al.</i> , "Inactivation of the <i>CDKN2/p16/MTS1</i> Gene Is Frequently Associated with Aberrant DNA Methylation in All Common Human Cancers," <i>Cancer Res.</i> 55:4525-4530, American Association for Cancer Research (1995)

EXAMINER

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<p>FORM PTO-1449</p> <p><u>INFORMATION DISCLOSURE STATEMENT</u></p>	<p>ATTY. DOCKET NO. 2072.0010009/MAC/SJE</p>	<p>APPLICATION NO. To be assigned National Phase for PCT/US2004/013881</p>
	<p>FIRST NAMED INVENTOR Michelle M. Hanna</p>	
	<p>INT'L APPL. FILING DATE: April 29, 2004</p>	<p>ART UNIT To be assigned</p>

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL15						Yes
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	AN15						Yes
							No
	AO15						Yes
							No
	AP15						Yes
							No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	15	Herman, J.G., <i>et al.</i> , "Incidence and functional consequences of <i>hMLH1</i> promoter hypermethylation in colorectal carcinoma," <i>Proc. Natl. Acad. Sci. USA</i> 95:6870-6875, National Academy of Sciences (1998)	
AS	15	Horii, A., <i>et al.</i> , "Frequent Replication Errors at Microsatellite Loci in Tumors of Patients with Multiple Primary Cancers," <i>Cancer Res.</i> 54:3373-3375, American Association for Cancer Research (1994)	
AT	15	Issa, J.-P.J., <i>et al.</i> , "Methylation of the oestrogen receptor CpG island links ageing and neoplasia in human colon," <i>Nat. Genet.</i> 7:536-540, Nature Publishing Co. (1994)	

EXAMINER	DATE CONSIDERED
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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
2072.0010009/MAC/SJEAPPLICATION NO.
To be assigned National Phase of
PCT/US2004/013031)
10/551775FIRST NAMED INVENTOR
Michelle M. HannaINT'L APPL. FILING DATE:
April 29, 2004ART UNIT
To be assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA16						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL16						Yes No
	AM16						Yes No
	AN16						Yes No
	AO16						Yes No
	AP16						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	16	Jin, D.J., "An <i>Escherichia coli</i> RNA Polymerase Defective in Transcription due to its Overproduction of Abortive Initiation Products," <i>J. Mol. Biol.</i> 236:72-80, Academic Press Limited (1994)
AS	16	Langer, P.R., <i>et al.</i> , "Enzymatic synthesis of biotin-labeled polynucleotides: Novel nucleic acid affinity probes," <i>Proc. Natl. Acad. Sci. USA</i> 78:6633-6637, National Academy of Sciences (1981)
AT	16	Loeb, L.A., "Mutator Phenotype May Be Required for Multistage Carcinogenesis," <i>Cancer Res.</i> 51:3075-3079, American Association for Cancer Research (1991)

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DATE CONSIDERED

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<p>FORM PTO-1449</p> <p><u>INFORMATION DISCLOSURE STATEMENT</u></p>	<p>ATTY. DOCKET NO. 2072.0010009/MAC/SJE</p>	<p>APPLICATION NO. To be assigned (National Phase of PCT) US 2004/018651</p>
	<p>FIRST NAMED INVENTOR Michelle M. Hanna</p>	
	<p>INT'L APPL. FILING DATE: April 29, 2004</p>	<p>ART UNIT To be assigned</p>

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL17						Yes No
	AM17						Yes No
	AN17						Yes No
	AO17						Yes No
	AP17						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	<u>17</u>	Meinkoth, J., and Wahl, G., "Hybridization of Nucleic Acids Immobilized on Solid Supports," <i>Anal. Biochem.</i> 138:267-284, Academic Press, Inc. (1984)
AS	<u>17</u>	Nowell, P.C., "The Clonal Evolution of Tumor Cell Populations," <i>Science</i> 194:23-28, American Association for the Advancement of Science (1976)
AT	<u>17</u>	Palmisano, W.A., et al., "Predicting Lung Cancer by Detecting Aberrant Promoter Methylation in Sputum," <i>Cancer Res.</i> 60:5954-5958, American Association for Cancer Research (November 2000)

EXAMINER	DATE CONSIDERED
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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
2072.0010009/MAC/SJEAPPLICATION NO.
To be assigned (National Phase of
PCT US 00470-0031)
107551775FIRST NAMED INVENTOR
Michelle M. HannaINT'L APPL. FILING DATE:
April 29, 2004ART UNIT
To be assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL18						Yes No
	AM18						Yes No
	AN18						Yes No
	AO18						Yes No
	AP18						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	<u>18</u>	Radlowski, M., and Job, D., "Effect of disulfide and sulfhydryl reagents on abortive and productive elongation catalyzed by <i>Escherichia coli</i> RNA polymerase," <i>Acta Biochim. Pol.</i> 41:415-419, Panstwowe Wydawnictwo Naukowe (1994)
AS	<u>18</u>	Rice, J.C., <i>et al.</i> , "Aberrant methylation of the <i>BRCA1</i> CpG island promoter is associated with decreased <i>BRCA1</i> mRNA in sporadic breast cancer cells," <i>Oncogene</i> 17:1807-1812, Stockton Press (1998)
AT	<u>18</u>	Robertson, K.D., "DNA methylation, methyltransferases, and cancer," <i>Oncogene</i> 20:3139-3155, Nature Publishing Group (May 2001)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
2072.0010009/MAC/SJEAPPLICATION NO.
To be assigned in final phase of
PCT/US 2004/013934
10/551773FIRST NAMED INVENTOR
Michelle M. HannaINT'L APPL. FILING DATE:
April 29, 2004ART UNIT
To be assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
		AA19					
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
		AL19					Yes No
		AM19					Yes No
		AN19					Yes No
		AO19					Yes No
		AP19					Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>19</u>	Tlsty, T.D., <i>et al.</i> , "Differences in the rates of gene amplification in nontumorigenic and tumorigenic cell lines as measured by Luria-Delbrück fluctuation analysis," <i>Proc. Natl. Acad. Sci. USA</i> 86:9441-9445, National Academy of Sciences (1989)
	AS	<u>19</u>	Toyota, M., and Issa, J.-P.J., "CpG island methylator phenotypes in aging and cancer," <i>Semin. Cancer Biol.</i> 9:349-357, Academic Press (1999)
	AT	<u>19</u>	Toyota, M., and Issa, J.-P.J., "The role of DNA hypermethylation in human neoplasia," <i>Electrophoresis</i> 21:329-333, Wiley-VCH Verlag GmbH (January 2000)

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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
2072.0010009/MAC/SJEAPPLICATION NO.
To be assigned (National Phase of
PCT/US2004/009084)
107591775FIRST NAMED INVENTOR
Michelle M. HannaINT'L APPL. FILING DATE:
April 29, 2004ART UNIT
To be assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL20						Yes No
	AM20						Yes No
	AN20						Yes No
	AO20						Yes No
	AP20						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>20</u>	Vogelstein, B., and Kinzler, K.W., "The multistep nature of cancer," <i>Trends Genet.</i> 9:138-141, Elsevier Science Publishers Ltd. (1993)
	AS	<u>20</u>	Wang, J.-Y., <i>et al.</i> , "Monovalent cations differ in their effects on transcription initiation from a σ -70 promoter of <i>Escherichia coli</i> ," <i>Gene</i> 196:95-98, Elsevier Science B.V. (1997)
	AT	<u>20</u>	Wu, D.Y., and Wallace, R.B., "The Ligation Amplification Reaction (LAR) - Amplification of Specific DNA Sequences Using Sequential Rounds of Template-Dependent Ligation," <i>Genomics</i> 4:560-569, Academic Press, Inc. (1989)

EXAMINER

DATE CONSIDERED

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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
2072.00:10009/MAC/SJEAPPLICATION NO.
To be assigned National Phase of
PCT/US2004/018021
101551775FIRST NAMED INVENTOR
Michelle M. HannaINT'L APPL. FILING DATE:
April 29, 2004ART UNIT
To be assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA21						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL21						Yes No
	AM21						Yes No
	AN21						Yes No
	AO21						Yes No
	AP21						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>21</u>	Cheung et al., "A Resource of Mapped Human Bacterial Artificial Chromosome Clones," <i>Genome Research</i> 9:983-993, Cold Spring Laboratory Press (1999).
	AS	<u>21</u>	Sasaki et al., "Transcriptional sequencing: A method for DNA sequencing using RNA polymerase" <i>Proc. Nat'l Acad. Sci. USA</i> 95:3455-3460 (1998).
	AT	<u>21</u>	

EXAMINER

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